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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,984

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Heribert Weber

23485

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EXAMINER

DOLE, TIMOTHY J

ART UNIT

PAPER NUMBER

2831

MAIL DATE

DELIVERY MODE

03/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,984	Applicant(s) WEBER ET AL.	
	Examiner TIMOTHY J. DOLE	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract contain the legal phraseology "comprising" on line 1, which should be avoided.

Claim Objections

2. Claims 3, 6, and 8 are objected to because of the following informalities: "body" should be "bond" in claim 3, line 4; and the limitations: "the electrodes" in claim 6, line 2, and "the metallization" in claim 8, line 3, both lack antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

Art Unit: 2858

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Michael (US 5,563,102).

Referring to claim 1, Michael discloses a chemical sensor having a first metallization plane (fig. 3 (2)) arranged on a substrate (fig. 3 (1)) and in which an electrode structure (fig. 3 (2)) is formed, a passivation layer (fig. 3 (3)) applied to the first metallization plane (fig. 3) and structured with contact holes (fig. 3 (6)), and a sensitive ceramic layer (fig. 3 (5b)) on the passivation layer (fig. 3 (3)) and in the contact holes (fig. 3 (6)), characterized in that a bond promoting layer (fig. 3 (4)) is provided which is configured as a second metallization plane (fig. 3 (4)) and is located between the passivation layer and the ceramic layer (fig. 3).

Referring to claim 2, Michael discloses the sensor as claimed, characterized in that the second metallization plane (fig. 3 (4)) is so applied that it comes to lie in the contact holes (fig. 3 (6)) upon the first metallization plane (fig. 3 (2)).

Referring to claim 3, Michael discloses the sensor as claimed, characterized in that a further passivation layer (fig. 3 (5a)) is located between the bond promoting layer (fig. 3 (4)) and the ceramic layer (fig. 3 (5b)) and so structured that the bond promoting layer (fig. 3 (4)) is partially passivated (fig. 3).

Referring to claim 4, Michael discloses the sensor as claimed, characterized in that in the electrode structure (fig. 3 (2)) of the first metallization plane, two coplanar electrodes (fig. 3 (2) note that there are multiple coplanar bond pads on the substrate) are formed by structuring and the second metallization does not lie at a defined electrical potential (fig. 3, note that metal layer 4 is connected to various electrical components on the substrate and is therefore not required to be at any defined potential; column 2, lines 48-64).

Referring to claim 5, Michael discloses the sensor as claimed, characterized in that the electrode structure (fig. 3 (2)) of the first metallization plane forms a first electrode (fig. 3 (2)) and the second metallization plane is configured as a second electrode (fig. 3 (4)) and lies at a defined electrical potential (fig. 3, note that metal layer 4 is connected to various electrical components on the substrate and therefore may be at any defined potential; column 2, lines 48-64) so that the sensitive ceramic layer is provided with a vertical electrode (fig. 3).

Referring to claim 8, Michael discloses the sensor as claimed, characterized in that the structures (fig. 3 (2)) of the metallization are formed on the front side of an Si-substrate (fig. 1 (1)) which has a membrane (column 2, lines 52-55).

Referring to claim 9, Michael discloses the sensor as claimed, characterized in that the material for the second metallization plane is Au, Cr/Au, Pt, Pd, W or Sn (column 9, lines 9-15).

Referring to claim 10, Michael discloses the sensor as claimed, characterized in that the application of the sensitive ceramic layer is effected by silk screening, dispenser application or an ink jet process (column 5, line 66 – column 6, line 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael (shown above) in view of Nakayama et al. (2002/0014415).

Referring to claims 6 and 7, Michael discloses the sensor as claimed, except wherein the electrodes are configured as interdigitating electrodes and are in the first metallization plane in addition to a heating structure and a temperature measuring structure.

Nakayama et al. discloses a chemical sensor wherein the electrodes are configured as interdigitating electrodes (fig. 1 (13)) and are in the first metallization plane in addition to a heating structure (fig. 1 (15)) and a temperature measuring structure (fig. 1 (16)).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the electrodes, heating structure and temperature measuring structure of Nakayama et al. into the sensor of Michael for the purpose of maintaining substrate temperature (paragraph [0022]).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to bond promoting layers.

USPN 6,551,248 to Miller: This patent shows an apparatus for adhering a ceramic transducer to a passivation layer.

USPN 2002/0084885 to Wienand et al.: This publication shows an apparatus for adhering a ceramic layer to a passivation layer.

USPN 6,361,716 to Kleyer et al.: This patent discloses an adhesion promoter for electronic devices including ceramics and passivation layers.

USPN 5,693,565 to Camilletti et al.: This patent shows an apparatus for adhering a ceramic layer to a passivation layer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY J. DOLE whose telephone number is (571)272-2229.

The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J. Dole/
Examiner, Art Unit 2858